

Docket No.: 10010107-1

AGIL-27,349

(PATENT)

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A serial communications link comprising:
  - 2 a scrambler device for receiving a source encoded data bit stream, the scrambler device scrambles the data bit stream on a group-wise basis to produce scrambled groups of data to
  - 4 statistically balance the number of logic low and logic high bits in the groups of data; and
  - 6 an ECC encoder device that receives the scrambled groups of data from the scrambler
  - 8 device and converts said scrambled groups of data into ECC-encoded data, said ECC-encoded  
data comprises ECC redundant code that comprises implicit frame alignment information.
2. (Currently Amended) The system as recited in Claim 1, further comprising:
  - 2 a serializer for converting said ECC-encoded data into serialized data; wherein the ECC  
encoded data includes frame alignment information; and
  - 4 the system further comprises a receiver for receiving said serialized data and converting  
the serialized data into data frames based upon the Implicit frame alignment information.
3. (Previously Presented) The system as recited in Claim 2, wherein the receiver  
2 comprises:
  - 4 a frame-recoverer for converting said serialized data into data frames;
  - 6 an ECC decoder for converting said data frames into ECC-decoded data and error  
indications; and
  - 8 a descrambler for converting said ECC-decoded data into de-scrambled data.
4. (Previously Presented) The system as recited in Claim 3, wherein said frame-  
2 recoverer uses said error indications in converting said serialized data into data frames.
5. (Cancelled)

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6. (Currently Amended) A serial communications method, comprising the steps of:

2 receiving a data bit stream, from an originating source, at a scrambler device, said data bit stream comprising data bits and other bits;

4 converting, on a group-wise basis, said data bit stream into groups of scrambled data, by said scrambler device, prior to performing another data function on said data bit stream, said 6 groups of scrambled data each comprising groups of data bits having a statistically balanced number of logic low and logic high data bits; and

8 converting said scrambled data into ECC-encoded data, said ECC-encoded data comprises redundant code that comprises implicit frame alignment information.

7. (Original) The method as recited in Claim 6, further comprising the steps of:

2 generating a serial stream of the ECC-encoded data; and  
transmitting said serial stream.

8. (Currently Amended) The method of Claim 7, wherein:

2 ~~the ECC-encoded data includes frame alignment information; and~~  
the method further comprises receiving said serialized data and converting said serialized 4 data into data frames based upon said implicit frame alignment information.

9. (Original) The method of Claim 7, further comprising:

2 receiving said serialized data;  
converting said serialized data into data frames;  
4 converting said data frames into ECC-decoded data and error indications; and  
converting said ECC-decoded data into de-scrambled data.

10. (Original) The method of Claim 9, wherein the step of converting the serialized data

2 comprises converting the serialized data into data frames based upon said error indications.

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11. -- 33. (Canceled)

34. (Currently Amended) A serial communication link comprising:

2 a scrambler device programmed to convert, on a group-wise basis, a received bit stream  
into groups of K scrambled data bits so as to statistically balance the number of logic low and  
4 logic high bits in each group of K scrambled data bits, said received bit stream being without  
redundant bits and being substantially only source encoded prior to being scrambled ; and  
6 an ECC encoder programmed to convert said scrambled data into ECC-encoded data,  
said ECC-encoded data comprises redundant code that comprises implicit frame alignment  
8 information.

35. (Currently Amended) A serial communications link comprising:

2 a scrambler device for receiving a data bit stream being substantially only data source  
encoded, the scrambler device scrambles the data bit stream on a group-wise basis into  
4 scrambled groups of data; and  
an ECC encoder device that receives the scrambled groups of data from the scrambler  
6 device and converts said scrambled groups of data into ECC-encoded data, said ECC-encoded  
data comprises redundant code that comprises implicit frame alignment information.

36. (Currently Amended) A serial communications method, comprising the steps of:

2 receiving a data bit stream at a scrambler device, said data bit stream comprising data bits  
and other bits resulting from data source encoding;

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4 converting, on a group-wise basis, said data bit stream into grouped scrambled data, by  
said scrambler device, prior to performing another data function on said data bit stream; and  
6 converting said scrambled data into ECC-encoded data, said ECC-encoded data  
comprises redundant code that comprises implicit frame alignment information.

37. (Currently Amended) A serial communication link comprising:  
2 a scrambler device programmed to convert, on a group-wise basis, a source encoded data  
bit stream into grouped scrambled data; and  
4 an ECC encoder programmed to convert said scrambled data into ECC-encoded data,  
said ECC-encoded data comprises redundant code that comprises implicit frame alignment  
6 information.